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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/533,302

06/16/2005

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IPA-007

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EXAMINER

MCDONOUGH, JAMES E

ART UNIT

PAPER NUMBER

1755

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
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3 MONTHS

04/10/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No. 10/533,302	Applicant(s) NAKASHIMA ET AL.	
	Examiner James E. McDonough	Art Unit 1755	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 January 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-28 is/are pending in the application.
- 4a) Of the above claim(s) 11-28 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 29 April 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>4/29/2005</u> | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Applicant's election of group 1, claims 1-10, in the reply filed on 1/18/2007 is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)).

Claims 11-28 have been withdrawn as drawn to a non-elected invention.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter, which the applicant regards as his invention.

Claims 8 and 9 rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

It is unclear why the TAOS/AS and TAAOH/(TAOS + AS) ratios are based on SiO₂ when none of these compounds actually contain SiO₂. Furthermore, it is unclear how the TAAOH/(TAOS + AS) ratio can be based on SiO₂ at all since TAAOH has no silicon atoms in it.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

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(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-5 and 9 rejected under 35 U.S.C. 102(e) as being anticipated by

Weisbeck et al. (US 2004/0229747).

Weisbeck et al. teaches a composition containing tetraethyl ortho silicate (TEOS), methyltrimethoxysilane (MTMS), tetrapropylammonium hydroxide (TPAOH), and water, which acts to hydrolyze the silicon compounds and the ratio of TAAOH/(TAOS + AS) overlaps with the range from 0.1-0.7 (paragraphs 0115-0127)

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 6 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Weisbeck et al. (US 2004/0229747) as applied to claims 1-5 and 9 above in view of Taguchi et al. (JP 406,173,054 A).

Although, Weisbeck et al. do not explicitly disclose the use of tetraalkyl ammonium hydroxide with impurities of alkali metal compounds is 50 ppb by weight or less and halogen group elements impurities of 1 ppm or less, Weisbeck does disclose the rest of the limitations of the instant claims. However, because Taguchi et al. teaches a process for the high purity preparation of tetraalkyl ammonium hydroxide where, impurities such as halogens and metal are removed (abstract) and, it is well known to remove impurities from material feed stocks as even low level impurities can have deleterious effect on electronic components. Even though Taguchi et al. is silent to the exact purity of the tetraalkyl ammonium hydroxide, it would be expected to at least overlap with the claimed range and, it would have been obvious to someone of ordinary skill in the art at the time the invention was made to combine the teachings of Weisbeck et al. with that of Taguchi et al. with a reasonable expectation of success and the expected benefit that the formed components would have lower impurities leading to better performance.

Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Weisbeck et al. (US 2004/0229747) as applied to claims 1-5 and 9 in view of Raman et al. (USP 5,770,275).

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Although, Weisbeck et al. does not explicitly disclose the molar ratios in the instant application, Weisbeck et al. do disclose the rest of the limitations of the instant claims. However, because Raman et al. teaches that the gelling time can be controlled by adjusting the ratio of tetraethoxy silane (TAOS) to that of methyltrimethoxy silane (AS) and, teaches specific ratios of 90:10 to 45:55 TAOS/AS respectively, which overlaps with the range of the instant claims, it would have been obvious to someone of ordinary skill in the art at the time the invention was made to combine the teachings of Weisbeck et al. with that of Raman et al. with a reasonable expectation of success and the expected benefit of having a method of controlling the gelling time of the composition.

Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Weisbeck et al. (US 2004/0229747) as applied to claims 1-5 and 9 in view of Burger et al. (US 2003/0041779).

Although Weisbeck et al. is silent as to the weight percent of TAOS and AS in the solution Weisbeck does teach the rest of the limitations of the instant claims. However, because Burger et al. teaches that silicon coating compositions usually contain less than 35% by weight of solids, since effective filming and adhesion of the coating require the addition of further solvents (paragraph 0011), it would have been obvious to someone of ordinary skill in the art at the time the invention was made to combine the teachings of Weisbeck et al. with that of Burger et al. with a reasonable expectation of success and the expected benefit of better adhesion of the coating with the substrate.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to James E. McDonough whose telephone number is (571)272-6398. The examiner can normally be reached on 8:30am-5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jerry Lorengo can be reached on (571)272-1233. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

JEM 3/26/2007


AILEEN FELTON
PRIMARY EXAMINER